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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,760	08/03/2001	John N. Hait	2807.2.20.6	9905

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EXAMINER

SEDIGHIAN, REZA

ART UNIT PAPER NUMBER

2633

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/921,760

Applicant(s)

HAIT, JOHN N.

Examiner

M. R. Sedighian

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/13/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 2, 15, 16, 17, 18, 19 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 6, 8, and 9 of copending Application No. 09/810,886. Although the conflicting claims are not identical, they are not patentably distinct from each other because both application claim a method of providing a hyper-dense photonic signal comprising of: providing a first photonic carrier, providing first information having a first bandwidth, modulating the first photonic carrier to embody the first information therein, and producing a composite signal comprising the photonic carrier and a photonic sideband associated therewith, and segregating the photonic carrier from at least a portion of the photonic sideband to provide a first hyper-dense photonic signal having a carrier photonic bandwidth less than the first bandwidth.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 4-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 4, it is not clear what is meant by "...selecting frequency of the first photonic carrier to be substantially the same as the frequency of the second photonic sideband." What does it mean by selecting a frequency for the first photonic carrier to be substantially the same as the frequency of the second photonic sideband??

As to claim 5, it recites the limitation "the first and second frequencies" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. Furthermore, it is not clear what is meant by "...selecting the first and second frequencies corresponding, respectively, to the first and second carriers, to each be collocated within the range of the suppressed sideband of the other in order to place the first and second frequencies within the bandwidth of the first information." What does it mean by selecting the first and second frequencies to be collocated within the range of suppressed sideband of the other in order to place the first and second frequencies within the bandwidth of the first information??

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohya et al. (US Patent No: 6,556,327).

Regarding claims 1 and 17, Ohya teaches a method for providing a hyper-dense photonic signal (col. 14, lines 20-37, the signal light generated by semiconductor laser 65 in fig. 15A and 72 in fig. 17A), comprising: providing a first photonic carrier (65, fig. 15A and 72, fig. 17A); providing first information (the 40-channel AM video signal shown in figs. 15A and 17A) having a first bandwidth (the 40-channel AM video signal can have a first bandwidth); modulating (col. 14, lines 37-45 and 73, fig. 17A) the first photonic carrier (the output light of semiconductor laser) to embody the first information therein, and produce a composite signal comprising the photonic carrier and a photonic sideband associated therewith (col. 14, lines 38-45 and col. 15, lines 25-30); and segregating the photonic carrier from a portion of the sideband to provide a first hyper-dense signal (col. 15, lines 30-34). Ohya differs from the claimed invention in that Ohya does not specifically disclose a carrier photonic bandwidth that is less than the first bandwidth. Ohya in one embodiment (fig. 15A) discloses the output spectrum (66, fig. 15B) of the laser source (65, fig. 15A) has broadened sidebands each having broader bandwidth (col. 14, lines 41-44). Ohya also discloses the 40-channel video signal is included in these sidebands (col. 14, line 45). Ohya in a different embodiment (fig. 17A) discloses an optical transmission (72, fig. 17A) and modulation (73, fig. 17A) system, wherein the spectrum of output light (74, fig. 17B) has a narrower bandwidth (col. 15, lines 30-34) than the spectrum of output light generated by laser transmitter of the other embodiment (66, 15B). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention that an optical signal transmission and modulation system such as the one shown in fig. 17A of Ohya

can provide a photonic bandwidth that is less than the bandwidth of information signal being carried by the system in order to transmit a high quality signal over a longer distance.

Regarding claims 2 and 19, Ohya teaches segregating further comprises suppressing the photonic sideband to reduce the energy content thereof and retain the first information within the photonic carrier (col. 15, lines 30-34).

Regarding claims 14 and 18, Ohya teaches segregating further comprises segregating a first upper sideband and a first lower sideband (66, fig. 15B and fig. 16B and 74, fig. 17B).

Regarding claim 15, Ohya teaches selectively attenuating photonic sideband associated with the photonic carrier (col. 15, lines 30-34).

7. Claims 3 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohya et al. (US Patent No: 6,556,327) in view of Sasai et al. (US Patent Application Publication No: 2001/0021047 A1).

Regarding claims 3 and 20, Ohya differs from the claimed invention in that Ohya does not disclose a second hyper-dense photonic signal, and wherein the first and second hyper-dense photonic signals having distinct, respective first and second carriers, and first and second sidebands. Sasai teaches first and second hyper-dense photonic signals (the output signal of multiplexer 510 in fig. 5) having respective first and second carriers (311, 31m, fig. 5), and having first and second sidebands (col. 5, paragraph 0068, col. 6, paragraph 0076). Therefore, it would have been obvious to an artisan at the time of invention to incorporate an optical transmission system that includes a plurality of optical transmission parts such as the ones of

Sasai for the optical transmitter in the communication system of Ohya in order to transmit a plurality of different data signals to different destinations.

Regarding claim 6, Sasai teaches transmitting the WDM signals over a carrier medium (150, fig. 5) to a destination (col. 10, see claim 32).

Regarding claim 7, Sasai teaches segregating the first and second carriers at the destination (col. 10, see claim 33).

Regarding claim 8, Sasai teaches segregating further comprises selecting the first carrier and directing the carrier to post processing for retrieving the first information (col. 10, see claim 33).

Regarding claim 9, Sasai teaches post processing the signal into a non-linear medium (150, fig. 5) to reconstitute an information sideband corresponding to the first information (col. 5, paragraph 0069).

Regarding claims 10-11, Sasai teaches the post processing is conducted in an electro-optical element (170, fig. 5).

Regarding claim 12, Sasai teaches the medium is a non-linear medium (150, fig. 5).

Regarding claim 13, Sasai teaches frequency shifting the WDM signal (col. 5, paragraph 0069).

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohya et al. (US Patent No: 6,556,327) in view of Dutt et al. (US patent No: 5,867,290).

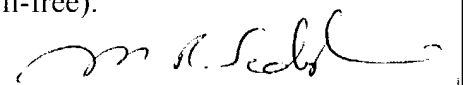
Regarding claim 16, Ohya differs from the claimed invention in that Ohya does not disclose passing the optical signal through a dispersive photonic element. Dutt teaches a

dispersive photonic element (22, fig. 1) such as diffraction grating that spreads the spectrum of a modulated (12, 14, fig. 1) light beam (col. 4, lines 45-58). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate a photonic dispersive element such as the one of Dutt for the optical transmission and modulation system of Ohya in order to provide distinct spectral bands that can be used for further signal analysis or measurements.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. R. Sedighian whose telephone number is (703) 308-9063. The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


M. R. SEDIGHIAN
Primary Examiner
Art Unit: 2633